Appendix 1. A clean version of the entire set of pending claims pursuant to 37 C.F.R. §1.121(c)(3) as they would appear following entry of this amendment is attached as Appendix 2. Please reconsider the above-mentioned application in view of the following amendments and remarks.

In The Specification:

Please rewrite the paragraph beginning at Specification page 47, line 11 as follows:

A1

"Figs. 1A-1H show a comparison of the nucleotide structure of the DNAP genes isolated from *Thermus aquaticus* (SEQ ID NO:1), *Thermus flavus* (SEQ ID NO:2) and *Thermus thermophilus* (SEQ ID NO:3); the consensus sequence (SEQ ID NO:7) is shown at the top of each row."

Please rewrite the paragraph beginning at Specification page 47, line 15 as follows:

A2

"Figs. 2A-2C show a comparison of the amino acid sequence of the DNAP isolated from *Thermus aquaticus* (SEQ ID NO:4), *Thermus flavus* (SEQ ID NO:5), and *Thermus thermophilus* (SEQ ID NO:6); the consensus sequence (SEQ ID NO:8) is shown at the top of each row."

Please rewrite the paragraph beginning at Specification page 49, line 8 as follows:

A3

"Figs. 22A and 22B demonstrate that the "nibbling" phenomenon is duplex dependent."

Please rewrite the paragraph beginning at Specification page 51, line 1 as follows:

A4

"Figs. 42A and 42B provide images generated by a fluorescence imager showing the products of INVADER oligonucleotide-directed cleavage assays run using a HCV RNA target and demonstrate the stability of RNA targets under INVADER oligonucleotide-directed cleavage assay conditions."

Please rewrite the paragraph beginning at Specification page 52, line 14 as follows:

"Figures 59A-59E provide an alignment of the amino acid sequences of several FEN-1 nucleases including the *Methanococcus jannaschii* FEN-1 protein (MJAFEN1.PRO), the *Pyrococcus furiosus* FEN-1 protein (PFUFEN1.PRO), the human FEN-1 protein (HUMFEN1.PRO), the mouse FEN-1 protein (MUSFEN1.PRO), the *Saccharomyces cerevisiae* YKL510 protein (YST510.PRO), the *Saccharomyces cerevisiae* RAD2 protein (YSTRAD2.PRO), the *Shizosaccharomyces pombe* RAD13 protein (SPORAD13.PRO), the human XPG protein (HUMXPG.PRO), the mouse XPG protein (MUSXPG.PRO), the *Xenopus laevis* XPG protein (XENXPG.PRO) and the *C. elegans* RAD2 protein (CELRAD2.PRO) (SEQ ID NOS:135-145, respectively); portions of the amino acid sequence of some of these proteins were not shown in order to maximize the alignment between proteins (specifically, amino acids 122 to 765 of the YSTRAD2 sequence were deleted; amino acids 122 to 746 of the SPORAD13 sequence were deleted; amino acids 122 to 757 of the HUMXPG sequence were deleted; amino acids 122 to 770 of the MUSXPG sequence were deleted; and amino acids 122 to 790 of the XENXPG sequence were deleted). The numbers to the left of each line of sequence refers to the amino acid residue number; dashes represent gaps introduced to maximize alignment."

A5

Please rewrite the paragraph beginning at Specification page 55, line 15 as follows:

"Figs. 88A and 88B provide schematics illustrating that an uncut probe combined with a partial promoter oligonucleotide does not permit transcription while a cut probe combined with a partial promoter oligonucleotide generates a complete (but nicked) promoter which supports transcription."

A6

Please rewrite the paragraph beginning at Specification page 56, line 23 as follows:

"Figs. 99A-99E depict structures that may be employed to determine the ability of an enzyme to cleave a probe in the presence and the absence of an upstream oligonucleotide. Figs. 99A-99E display the sequence of oligonucleotide 89-15-1 (SEQ ID NO:152), oligonucleotide 81-69-5 (SEQ ID NO:156), oligonucleotide 81-69-4 (SEQ ID NO155), oligonucleotide 81-69-3 (SEQ ID NO:154), oligonucleotide 81-69-2 (SEQ ID NO:153) and a portion of M13mp18 (SEQ ID NO:163)."

A7